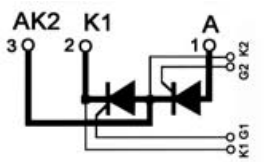
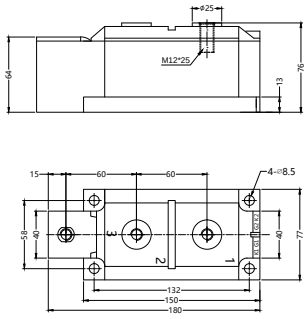
STT1000GK22PT

Thyristor-Thyristor Modules



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STT1000GK08PT	900	800
STT1000GK12PT	1300	1200
STT1000GK14PT	1500	1400
STT1000GK16PT	1700	1600
STT1000GK18PT	1900	1800
STT1000GK20PT	2100	2000
STT1000GK22PT	2300	2200
STT1000GK24PT	2500	2400
STT1000GK26PT	2700	2600
STT1000GK28PT	2900	2800
STT1000GK30PT	3100	3000

Tolerance:±0.5mm
Dimensions in mm



Symbol	Test Conditions	Maximum Ratings	Unit
I_{TAV}	T_C=85°C; 180° half sine wave,50Hz	1000	A
I_{TRMS}	T_C=85°C; 180° Full cycle sine wave,50Hz	1570	A
I_{TSM}	$T_{VJ}=T_{VJM}$ 180° half sine wave,50Hz single pulse; T_C =25°C V_R=0;	37.0 41.0	KA
I^2t	$T_{VJ}=T_{VJM}$ Gate pulse;20V,5W T_C =25°C 1us rise time,500us	6600 6700	KA^2s
V_{DRM}, V_{RRM}	$T_{VJ}=T_{VJM}$ 180° half sine wave,50Hz ;Gate open	800 ~1800	V
V_{DSM}, V_{RSM}	$T_{VJ}=T_{VJM}$ 180° half sine wave,50Hz ;single pulse,Gate open	900~1900	
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ repetitive, I_T=1000A f=50Hz, t_p=200us V_D=2/3V_{DRM} I_G=1A non repetitive, $I_T=I_{TAVM}$ di_G/dt=1A/us	100 200	A/us
$(dv/dt)_{cr}$	$T_{VJ}=T_{VJM}$; V_{DR}=2/3V_{DRM} R_{GK}=∞; method 1 (linear voltage rise)	1000	V/us
P_{GM}	$T_{VJ}=T_{VJM}$	100	W
P_{GAV}	$T_{VJ}=T_{VJM}$	10	W
V_{RGM}	$T_{VJ}=T_{VJM}$	8	V
T_{VJ} T_{VJM} T_{stg}		-40...+140 140 -40...+125	°C
V_{ISOL}	50/60Hz, RMS t=1min I_{ISOL}≤1mA t=1s	3000 3600	V~
M_d	Mounting torque (M6) Terminal connection torque (M8)	4.5-7/40-60 11-13/97-115	Nm/lb.in.
Weight	Typ.	3300	g

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STT1000GK22PT

Thyristor-Thyristor Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_{RRM}	$T_{VJ}=T_{VJM}$; $V_R=V_{RRM}$	100	mA
V_T	I_T=3000A; $T_{VJ}=25^oC$	1.85	V
V_{TO}	For power-loss calculations only ($T_{VJ}=T_{VJM}$)	0.95	V
r_T		0.30	mΩ
V_{GT}	V_D=12V; $T_{VJ}=25^oC$ $T_{VJ}=-40^oC$	2.5 3.5	V
I_{GT}	V_D=12V; $T_{VJ}=25^oC$ $T_{VJ}=-40^oC$	300 400	mA
V_{GD}	$T_{VJ}=T_{VJM}$; $V_D=2/3V_{DRM}$	0.5	V
I_{GD}	$T_{VJ}=T_{VJM}$; $V_D=2/3V_{DRM}$	10	mA
I_L	$T_{VJ}=25^oC$; t_p=30us; V_D=12V I_G=1A; di_G/dt=1A/us	1000	mA
I_H	$T_{VJ}=25^oC$; V_D=6V; $R_{GK}=\infty$	500	mA
t_{gd}	$T_{VJ}=25^oC$; $V_D=1/2V_{DRM}$ I_G=1A; di_G/dt=1A/us	10	us
t_q	$T_{VJ}=T_{VJM}$; I_T=500A; t_p=200us; -di/dt=10A/us typ. V_R=100V; dv/dt=50V/us; $V_D=2/3V_{DRM}$	200	us
R_{thJC}	DC current	0.0300	K/W
R_{thJK}	DC current	0.008	K/W
d_S	Creeping distance on surface	12.7	mm
d_A	Creepage distance in air	9.6	mm
a	Maximum allowable acceleration	59.81	m/s^2

FEATURES

* International standard package
* Copper base plate
* Pressure Contact Technology
* Isolation voltage 3600 V~
* RoHs compliant

APPLICATIONS

* Motor control, softstarter
* Power converter
* Heat and temperature control for industrial furnaces and chemical processes
* Lighting control
* Solid state switches

ADVANTAGES

* Simple mounting
* Improved temperature and power cycling
* Reduced protection circuits

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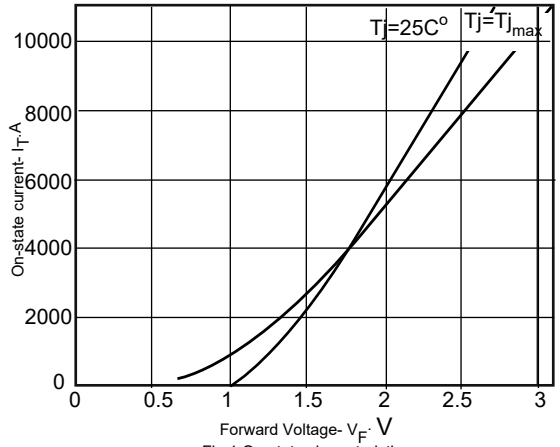

Fig.1 On-state characteristics

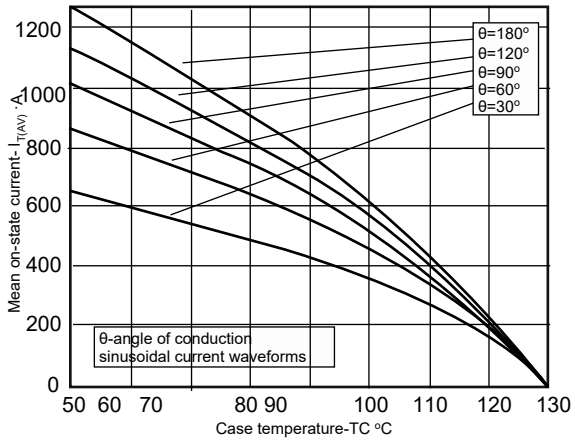

Fig.2 Mean on-state I_{TAV} vs. Case temperature TC for sinusoidal current waveforms at different conduction angles,f=50H z

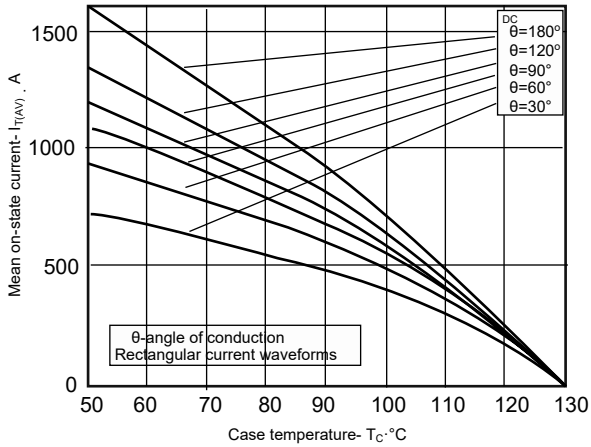

Fig.3 Mean on-state I_{TAV} vs. Case temperature T_C for rectangular current waveforms at different conduction angles and for DC,f=50Hz

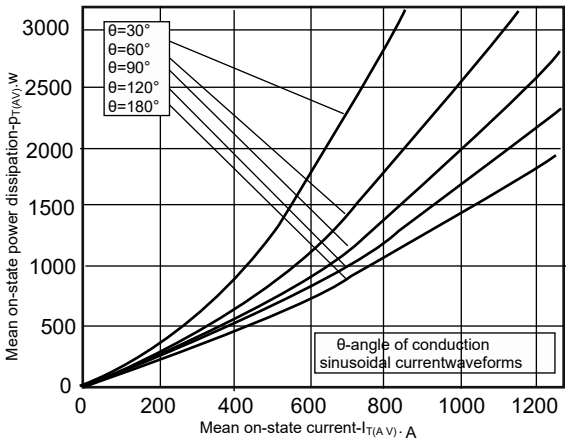

Fig.4 Mean on-state power dissipation P_{TAV} vs. Mean on-state current I_{TAV} for sinusoidal current waveforms at different conduction angles,f=50Hz

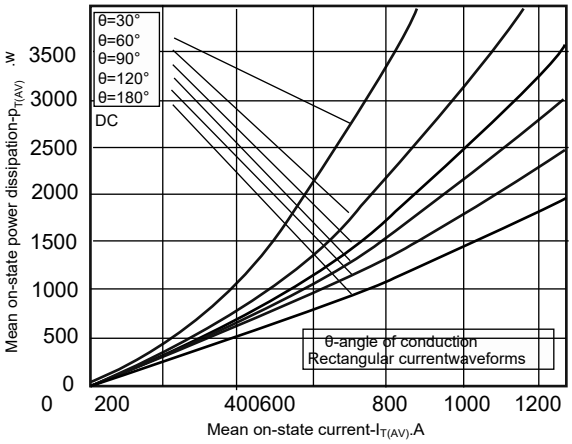

Fig.5 Mean on-state power dissipation P_{TAV} vs. Mean on-state current I_{TAV} for rectangular current waveforms at different conduction angles and for DC,f=50Hz

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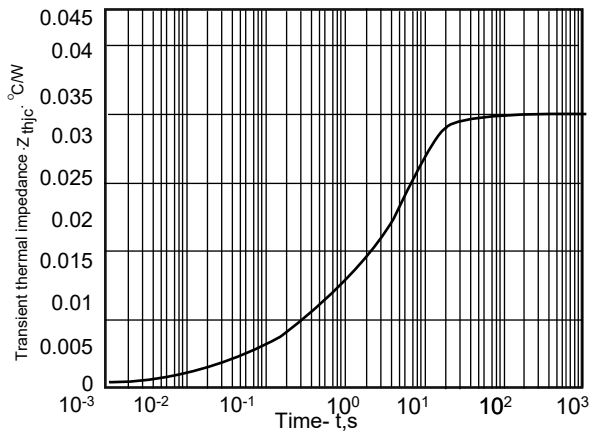

Fig.6 Transient thermal impedance junction to case Z_{thjc} per arm for DC

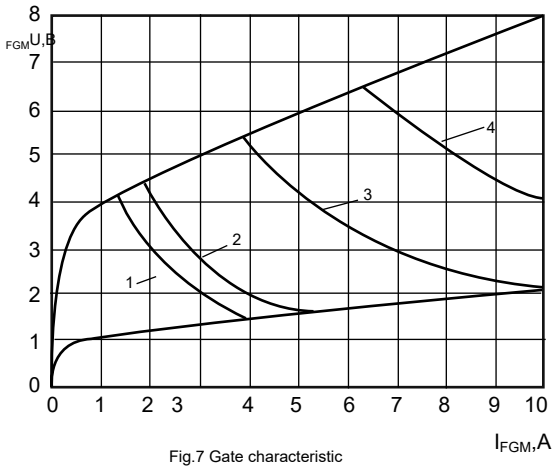

Fig.7 Gate characteristic

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